1. What is the difference between the following two questions?

- Suppose the average speed for a group of animals is 35.5 miles per hour with a standard deviation of 14.1 miles per hour. What speed separates the fastest 50% of the animals from the rest?

- Suppose the speed for a group of animals is approximately normal with an average speed of 35.5 miles per hour and a standard deviation of 14.1 miles per hour. What speed separates the fastest 50% of the animals from the rest?

2. What is the difference between the following two questions?

- The average height of a group of female students was 64.8 inches with a standard deviation of 2.5 inches. What is the percentage of the students who are between 5 ½ feet and 6 feet tall?

- The height of a group of female students is approximately normal with an average of 64.8 inches and a standard deviation of 2.5 inches. What is the percentage of the students who are between 5 ½ feet and 6 feet tall?

3. What is the difference between the following two questions?

- A machine produces bolts with an average diameter of 0.25 inch and a standard deviation of 0.02 inch. What percentage of bolts produced will have a diameter greater than 0.3 inch?

- A machine produces bolts with an average diameter of 0.25 inch and a standard deviation of 0.02 inch. If the diameter of the bolts is approximately normal, what percentage of bolts produced will have a diameter greater than 0.3 inch?

4. Suppose the speed for a group of animals is approximately normal with an average speed of 35.5 miles per hour and a standard deviation of 14.1 miles per hour. What speed separates the fastest 50% of the animals from the rest?

5. Suppose the speed for a group of animals is approximately normal with an average speed of 35.5 miles per hour and a standard deviation of 14.1 miles per hour. What speed separates the fastest 20% of the animals from the rest?

6. Suppose the speed for a group of animals is approximately normal with an average speed of 35.5 miles per hour and a standard deviation of 14.1 miles per hour. What speed separates the slowest 10% of the animals from the rest?

7. The height of a group of female students is approximately normal with an average of 64.8 inches and a standard deviation of 2.5 inches. What is the percentage of the students who are between 5 ½ feet and 6 feet tall?

8. The height of a group of female students is approximately normal with an average of 64.8 inches and a standard deviation of 2.5 inches. What is percentage of the students whose height exceeds 5 feet?

9. A machine produces bolts with an average diameter of 0.25 inch and a standard deviation of 0.02 inch. If the diameter of the bolts is approximately normal, what percentage of bolts produced will have a diameter greater than 0.3 inch?

10. For students entering the University of Florida in a recent year, the distribution of SAT scores was roughly normal, with mean 1100 and standard deviation 180. The middle 95% of the SAT scores were between what two values?